

## TWO NEW SPECIES OF OLEARIA Moench (COMPOSITAE: ASTEREAEE) FROM CENTRAL AUSTRALIA

by

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### ABSTRACT

Cooke, D. A. New species of *Olearia* Moench (Compositae: Astereae) from central Australia. *Muelleria* 6(3):181-184 (1986). — Two new species of *Olearia*, *O. macdonnellensis* and *O. tridens*, are described and discussed; both are currently known from the Macdonnell Ranges of the Northern Territory.

### TAXONOMY

#### *Olearia macdonnellensis* D. A. Cooke, sp. nov.

Frutex viscidus aromaticus ad 1.2 m altus., *Caulis* erectus lignosus divaricate ramificans; ramuli subteretes striati brunnei initio vernicosi puberulenti pilis glandulosis ad 0.15 mm longis. *Folia* coriacea viridia concolora vernicosa ut videtur glabra, pilis glandulosis ad 0.12 mm longis in strato vernicis inclusis; laminae oblongae lato-obovatae obtusae 1.2-2.5 cm longae 6-14 mm latae, plerumque 4-10-crenatae rariore serratae vel repandae, venatione camptodroma craspedodromave distincta, in petiolis 2-6 mm longis sensim transientes. *Capitula* 2-5 in corymbis terminales. *Pedunculi* 2-8 cm longi squamis 1-6 angusto-lanceolatis 1-2 mm longis instructi, bracteis oblanceolatis 5-13 mm longis subtenti. *Involucrum* cyathiforme 6-9 mm longum viride vel purpurascens, extrinsecus glandulosum vernicosum; bractee c. 3-seriatae inaequales, extimae lanceolatae 1.5-2.5 mm longae herbaceae, interiores anguste linearo-ellipticae herbaceae marginibus scarioso-hyalinis, apicibus acutis integris vel eroso-ciliatis. *Receptaculum* subconvexum c. 1.5 mm diametro nudum. *Flosculi* radii 8-14 manifeste uniseriati foemini, ligulis 8-15 mm longis albis; flosculi disci numerosiores bisexuales 5-meri, corollis 6-8 mm longis luteis. *Antherae* c. 2.8 mm longae cum apicibus lanceolatis sterilibus c. 0.6 mm longis. *Achenium* teretum 2.5-3 mm longum c. 0.5 mm latum sericeo-villosum. *Pappus* uniseriatus 7-8 mm longus, setis 40-55.

Viscid aromatic shrub to 1.2 m high. *Stem* erect, woody, divaricate-branched; branchlets subterete, striate, brown, at first varnished, puberulent with glandular hairs to 0.15 mm long. *Leaves* coriaceous, green concolourous, varnished and appearing glabrous, with glandular hairs to 0.12 mm long imbedded in the varnish layer; laminae oblong to broad-ovate, obtuse, 1.2-2.5 cm long, 6-14 mm wide, usually 4-10-crenate, more rarely serrate or repand, with distinct camptodromous to craspedodromous venation, passing gradually into petioles 2-6 mm long. *Capitula* in terminal corymbs of 2-5. *Peduncles* (corymb branches) 2-8 cm long, each subtended by an oblanceolate bract 5-13 mm long and bearing 1-6 narrow-lanceolate scales 1-2 mm long. *Involucre* cyathiform, 6-9 mm long, green to purplish, glandular and varnished on the outside; bracts c. 3-seriate, unequal, the outermost ones lanceolate, 1.5-2.5 mm long, herbaceous, the inner ones narrowly linear-elliptic, herbaceous with scarious-hyaline margins and acute entire to erose-ciliate apices. *Receptacle* somewhat convex, c. 1.5 mm diam., naked. *Ray florets* 8-14, manifestly uniseriate, female, with white ligules 8-15 mm long; disc florets more numerous, bisexual, 5-merous; corollas 6-8 mm long, yellow. *Anthers* c. 2.8 mm long, including the sterile lanceolate apices c. 0.6 mm long. *Achene* terete, 2.5-3 mm long, c. 0.5 mm wide, silky-villous. *Pappus* uniseriate, 7-8 mm long, consisting of 40-55 bristles. (Fig. 1a,b).

#### TYPE COLLECTION:

1 km W. of Ellery Creek Big Hole, N.T., 23°47'S, 133°03'E, 17.vii.1983, P. K. Latz 9639. (HOLOTYPE: NT 73777. ISOTYPE: AD. Also, according to NT label data, DNA, MEL, PERTH).

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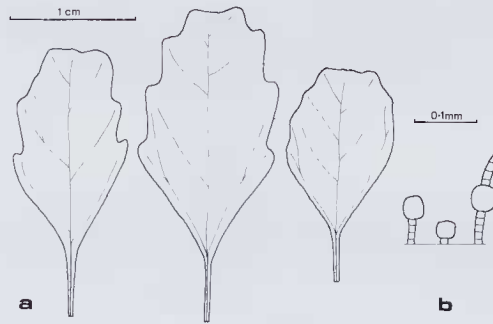


Fig. 1. *Olearia macdonnellensis*. a — leaves.  
b — glandular hairs. From the type collection.

ALSO EXAMINED:

Northern Territory — Ellery Creek Waterhole, 6.viii.1961, *G. Chippendale s.n.* (NT 8298; AD 96445098; also MEL 674095 n.v. and, according to NT label data, BRI, CANB, DNA, SYDN [? = NSW], PERTH); Serpentine Gorge, 1.ix.1978, *A. C. Kalotas s.n.* (NT 57615).

DISTRIBUTION AND HABITAT:

Recorded from the Serpentine and Ellery Gorges in the central Macdonnell Ranges west of Alice Springs, and possibly more widely distributed in this area. All collections are from the bases of steep rocky slopes which provide a sheltered microclimate. Flowering is recorded in August and early September.

DISCUSSION:

*Olearia macdonnellensis* is related to *O. calcarea* F. Muell. ex Benth. and *O. muelleri* (Sonder) Benth. but readily distinguished by the pedunculate capitula forming corymbs and by the larger leaves with more distinct venation and petioles. The two latter species are widespread on calcareous loams and sandy soils in the semi-arid winter rainfall zone of southern Australia with a few records from the Great Victoria and Gibson deserts. The restricted habitat of *O. macdonnellensis* is apparently isolated from this distribution by the mountain ranges of central Australia.

The microscopic glandular hairs were observed on leaves from which the varnish had been dissolved by immersion in absolute alcohol for a few minutes. They occur sparsely scattered on both surfaces of the lamina, and more densely near the margins and midvein. Similar hairs, more or less imbedded in varnish, were observed on the leaves and branchlets of *O. calcarea* and *O. muelleri*.

*Olearia tridens* D. A. Cooke, sp. nov.

Frutex nanus virgatus 25-35 cm altus. *Caules* erecti lignosi repetitive ramificantes; ramuli subteretes costulis ab foliis decurrentibus virides. *Indumentum* ramulorum foliorumque initio minute araneosum pilis laxis crispatis ad 0.4 mm longis, postea scaberulum papillis conicis ad 0.06 mm altis. *Folia* anguste cuneata vel spatulata 5-18 mm longa, ad apices in dentibus tribus aequalibus acutis mucronulatis subrecurvatis 1-3 mm longis symmetrice divisa, rariore asymmetrica dentibus 1-2 adjectis brevioribus, rigide coriacea marginibus incurvis in sicco. *Capitula* terminalia solitaria. *Pedunculi* 1-4 cm longi, squamis 1-4 angusto-lanceolatis 1-3 mm longis instructi, microscopice araneosi, in ramulis foliosis sensim transientes. *Involverum* cyathiforme 3-6 mm longum viride vel purpurascens, extrinsecus microscopice glandulosum, bracteae c. 4-seriatae inaequales, herbaceae marginibus angustis hyalinis, extimae lanceolatae 1.5-2.5 mm longae, interiores anguste elliptico-lanceolatae apicibus acutis vel acuminatis ciliolatis. *Receptaculum* convexum c. 1.5 mm diametro nudum. *Flosculi* radii 30-40 conferti ut videtur biseriati, foemini, ligulis 5-8 mm longis coeruleis; flosculi disci pauciores bisexuales 5-meri, corollis c. 3.5 mm longis luteis. *Antherae* c. 1.9 mm longae cum apicibus lanceolatis sterilibus c. 0.4 mm longis. *Achenium* teretum c. 1.5 mm longum c. 0.3 mm latum pubescens. *Pappus* uniseriatus c. 3 mm longus, setis 25-40.

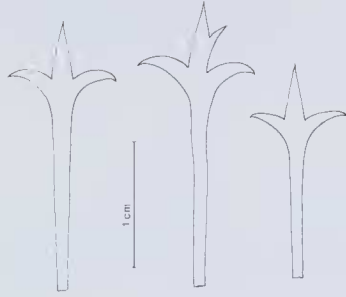


Fig. 2. *Olearia tridens*, leaves. From the type collection.

Dwarf virgate shrub 25-35 cm high. *Stems* erect, woody, repeatedly branched; branchlets subterete with ridges decurrent from the leaf bases, green. *Indumentum* of the branchlets and leaves at first minutely arachnose with lax crisped hairs to 0.4 mm long, later scabridulous with conical papillae to 0.06 mm high. *Leaves* narrowly cuneate to spatulate, 5-18 mm long, symmetrically divided at the apex into 3 equal acute mucronulate slightly recurved teeth 1-3 mm long, more rarely asymmetrical with 1-2 additional shorter teeth, rigidly coriaceous with margins incurved in dried material. *Capitula* terminal, solitary. *Peduncles* 1-4 cm long, microscopically arachnose, with 1-4 narrow-lanceolate scales 1-3 mm long, passing gradually into the leafy branchlets. *Involucre* cyathiform, 3-6 mm long, green or purplish, microscopically glandular on the outside; bracts c. 4-seriate, unequal, herbaceous with narrow hyaline margins, the outermost lanceolate, 1.5-2.5 mm long, the inner ones narrowly elliptic-lanceolate with acute to acuminate ciliolate apices. *Receptacle* convex, c. 1.5 mm diam., naked. *Ray florets* 30-40, crowded and appearing biseriate, female, with pale blue ligules 5-8 mm long; disc florets fewer, bisexual, 5-merous; corollas c. 3.5 mm long, yellow. *Anthers* c. 1.9 mm long, including the sterile lanceolate apices c. 0.4 mm long. *Achene* terete, c. 1.5 mm long, c. 0.3 mm wide, pubescent. *Pappus* uniseriate, c. 3 mm long, consisting of 25-40 bristles. (Fig. 2).

TYPE COLLECTION:

4 km W. of Trepfina Gorge, N.T., 23°32'S, 134°22'E, 17.vii.1983, P. K. Latz 9589. (HOLOTYPE: NT 73590. ISOTYPE: AD 98421171. Also, according to NT label data, DNA, PERTH).

ALSO EXAMINED:

*Northern Territory* — Amphitheatre, Palm Valley, 24.ix.1972, G. Griffin 6 (NT 43482); Palm Valley, 20.vii. 1972, P. K. Latz 2659 (NT 36698); AD 97244206); Reedy Creek, George Gill's Range, 1894, R. Tate s.n. (AD 95838012).

DISTRIBUTION AND HABITAT:

The species has a wide but possibly discontinuous distribution in the Macdonnell Ranges. It occurs on steep rocky slopes and cliffs in skeletal soils. Flowering is recorded in July.

DISCUSSION:

*Olearia tridens* is related to *O. stuartii* (F. Muell.) F. Muell. ex Benth. and may be confused with depauperate specimens of this generally larger shrub. It is recognizable by the characteristic leaf shape and the indumentum which contrasts with the pubescence of mixed persistent glandular and non-glandular hairs in *O. stuartii*.

The specific epithet is from the Latin *tridens*, a trident, referring to the shape of the leaves.

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